ENGLISH 22323 of 1892

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A.D. 1892. Dec. 6. N° 22,323.

WEYMAN & *another's* Complete Specification. *(1 SHEET)*

12/1892

FIG. 1.

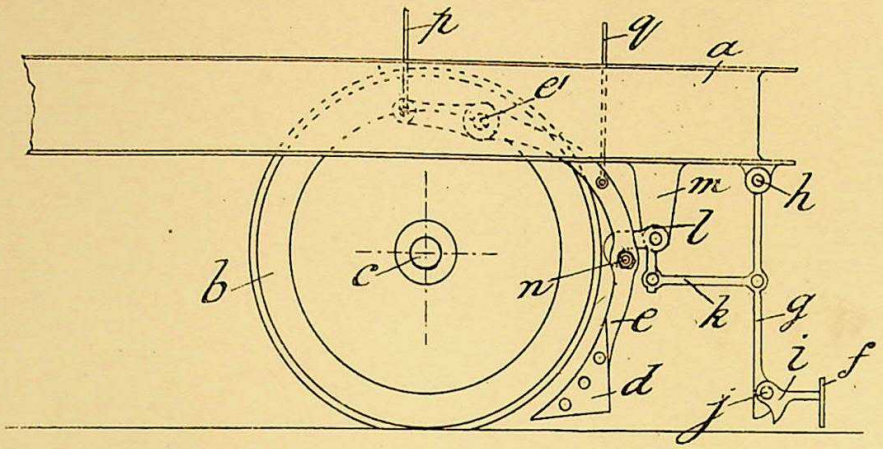


FIG. 2.

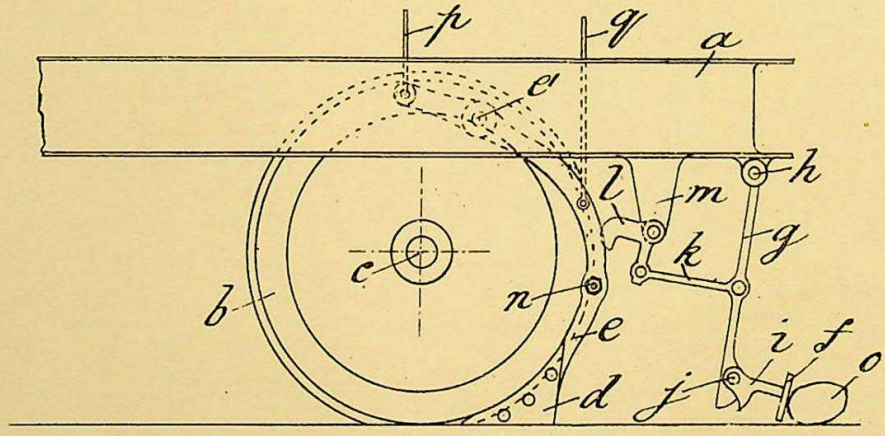
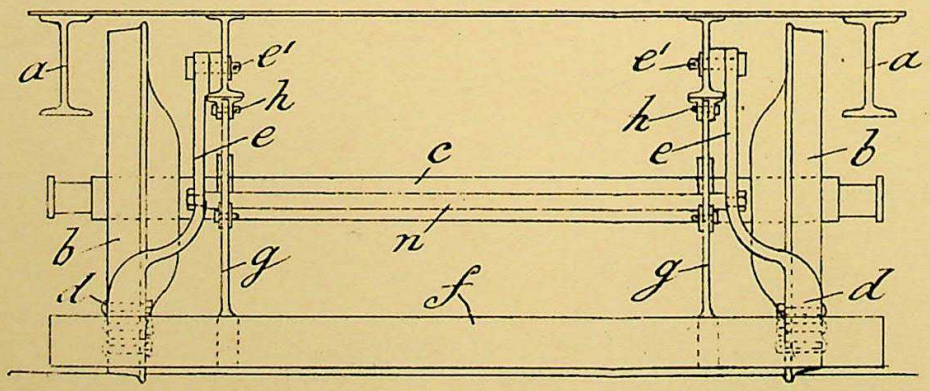


FIG. 3.



[This Drawing is a reproduction of the Original on a reduced scale.]

London:—Printed by Darling and Son Ld.
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DUPLICATE

N° 22,323 A.D. 1892

Date of Application, 6th Dec., 1892
Complete Specification Left, 6th Oct., 1893—Accepted, 11th Nov., 1893

PROVISIONAL SPECIFICATION.

Improvements in Life Guards for Railway and Tramway Locomotives and Vehicles, and in Apparatus and Appliances connected therewith.

We, JAMES EDWARDES WEYMAN of Treverward, Nightingale Road, Guildford, Mechanical Engineer, and GODFREY WALTER HAYNES ELLIS of Summersbury, Shalford, Guildford, Tanner, both in the County of Surrey, do hereby declare the nature of our invention for "IMPROVEMENTS IN LIFE GUARDS FOR RAILWAY AND TRAMWAY LOCOMOTIVES AND VEHICLES AND IN APPARATUS AND APPLIANCES CONNECTED THEREWITH" to be as follows:—

The objects of our invention are to prevent accidents through persons or other obstacles getting in front or under the wheels of railway and tramway locomotives and vehicles when in motion.

Although our invention is applicable to a variety of vehicles it is more particularly applicable to tramcars or tramcar motors which run on rails in the public streets.

We effect these objects by placing in a convenient position in front of the wheels of such a tramcar, motor, or other vehicle (hereinafter referred to as the vehicle) specially constructed life guards which we arrange in combination with special apparatus and appliances connected with the break gear or starting and stopping motions or both or all of them in such a manner that in the event of obstruction arising from the causes named the motion of the vehicle will be immediately and automatically arrested.

The life guards herein referred to we construct and affix to the vehicle so that they give or move inwardly or otherwise when brought in contact with an obstacle so as to communicate motion to levers, connecting rods, links or equivalent mechanism by which the motive power may be stopped as for example in a steam engine the throttle valve may be closed, in a gas or oil engine the ignition appliance or gas or oil supply may be intercepted, in an electrical motor the current may be switched off or circuit broken and in a rope haulage railway the grip released and at the same time and by the same combination of apparatus and appliances the breaks brought into action. When a vacuum break is employed the vacuum will be destroyed by opening an air cock or when a steam break is employed the pressure reduced by opening an escape valve.

In some cases we employ breaks or skids carried in front of the wheels of the vehicle suspended by a cross-bar in such a manner that when released by the motion of the life guards the breaks or skids fall onto or under the wheels, in the latter case in such a manner that they slide along the rails and skid the wheels, the skids being provided with flanges to keep them onto the rails.

Dated this 5th day of December 1892.

R. HEBER RADFORD,
Agent for the Applicants.

COMPLETE SPECIFICATION.

Improvements in Life Guards for Railway and Tramway Locomotives and Vehicles, and in Apparatus and Appliances connected therewith.

We, JAMES EDWARDES WEYMAN, of Treverward, Nightingale Road, Guildford, Mechanical Engineer, and GODFREY WALTER HAYNES ELLIS, of Shalford, Guildford, Tanner, both in the County of Surrey, do hereby declare the

nature of our said invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement :—

The objects of our invention are to prevent accidents through persons or other obstacles getting in front or under the wheels of railway and tramway locomotives and vehicles when in motion.

Although our invention is applicable to a variety of vehicles it is more particularly applicable to tramcars or tramcar motors which run on rails in the public streets.

We effect these objects by placing in a convenient position in front of the wheels of such a tramcar, motor or other vehicle, (hereinafter referred to as the vehicle,) specially constructed life guards which we arrange in combination with special apparatus and appliances connected with the break gear or starting and stopping motions or both or all of them in such a manner that in the event of obstruction arising from the causes named the motion of the vehicle will be immediately and automatically arrested.

The life guards herein referred to we construct and affix to the vehicle so that they give or move inwardly or otherwise when brought in contact with an obstacle so as to communicate motion to levers, connecting rods, links or equivalent mechanism by which the motive power may be stopped as for example in a steam engine, the throttle valve may be closed, in a gas or oil engine, the ignition appliance or gas or oil supply may be intercepted, in an electrical motor, the current may be switched off or circuit broken, and in a rope haulage railway, the grip released and at the same time and by the same combination of apparatus and appliances the breaks brought into action. When a vacuum break is employed the vacuum will be destroyed by opening an air cock, or when a steam break is employed the pressure reduced by opening an escape valve.

In some cases we employ breaks or skids carried in front of the wheels of the vehicle, suspended by a cross-bar, in such a manner that when released by the motion of the life guards, the breaks or skids fall onto or under the wheels, in the latter case, in such a manner that they slide along the rails and skid the wheels, the skids being provided with flanges to keep them onto the rails.

Although our invention is applicable to a variety of vehicles a description of it as applied to a tramcar-motor will suffice to illustrate its principle and action which will be better understood on reference to the accompanying sheet of drawings in which,

Fig. 1, is a side elevation of the under frame and wheels at one end of a tram-car motor shewing the automatic break appliances in their normal position with the breaks free.

Fig. 2, is a similar view to Fig. 1, shewing the breaks brought into action by the automatic appliances when actuated by an obstruction in front of the car.

Fig. 3, being an end elevation of the same.

The same letters refer to similar parts throughout the several views. *a*, is the frame-work of the vehicle, *b*, *b*, the wheels and *c*, the axle, *d*, *d*, are the breaks or skids suspended by levers, *e*, *e*, from pins, e^1, e^1, in the framing, *f*, is the front bar of the life guard stretching across both rails of the tram road, in front of the wheels, which we attach to levers, *g*, *g*, suspended by pins, *h*, *h*, from the frame of the vehicle, the front bar, *f*, we sometimes bolt to short levers, *i*, *i*, with hinged joints *j*, *j*, at the lower ends of the levers *g*, *g*, or we bolt it directly on to the levers *g*, *g*, without the short levers, *i*, *i*, and hinged joints *j*, *j*. Connected to the levers *g*, *g*, we place the horizontal connecting rods *k*, *k*, the inner ends of which are attached to the heels of two catches *l*, *l*, the catches, *l*, *l*, being carried by brackets, *m*, *m*, bolted to the framework of the vehicle and so arranged to catch a break bar, *n*, connecting the two break levers together so as to hold the breaks off the wheels until an obstruction *o*, comes in contact with the front bar *f*, of the life guard by which the levers *g*, *g*, are forced inwards, and by means of the connecting rods *k*, *k*, the catches, *l*, *l*, are lifted so as to release the

bar, *n*, when the break levers fall and the skids, *d*, *d*, are brought on to the rails of the tram road under the wheels, *b*, *b*, which are thereby scotched or skidded. By the same motion when the break levers *e*, *e*, are lowered by the releasing of the breaks the propelling power of the car can be likewise stopped by means of the lever, *p*, which we provide for the purpose and which we connect with the apparatus and appliances by which the motive power is stopped as herein previously described. When the obstruction, *o*, has been removed and it is desired that the vehicle should proceed the break may be eased off the wheels by means of the lever or levers, chain or chains *q*, *q*, on pulling or raising which the levers *e*, *e*, are lifted, the break skids *d*, *d*, are brought off the wheels and the rails, the catches, *l*, *l*, again fall into position so as to catch the bar, *n*, and hold it and the breaks in their normal position.

Having now particularly described and ascertained the nature of our invention and in what manner the same is to be performed we declare that what we claim is,

1. In railway and tramway locomotives and vehicles the arrangement and combination of parts and appliances by means of which when an obstacle in front of the vehicle comes in contact with the front bar of the specially constructed life guard the breaks of such vehicles may be automatically brought into action and the motion of the vehicle arrested, in the manner and for the purposes substantially as herein described and illustrated.

2. In railway and tramway locomotives and vehicles the arrangement and combination of parts and appliances by means of which when an obstacle in front of the vehicle comes in contact with the front bar of the specially constructed life guard the breaks of such vehicles may be automatically brought into action and the motive power machinery by which the vehicle is propelled likewise automatically stopped, intercepted, or disconnected, so that the motion of the vehicle may be arrested, in the manner and for the purposes substantially as herein described and illustrated.

Dated this 5th day of October 1893.

R. HEBER RADFORD,
Agent for the Applicants.

London : Printed for Her Majesty's Stationery Office, by Darling & Son. Ltd.—1893